

In Re Patent Application of:
SALATINO ET AL.
Serial No: 09/931,587
Confirmation No. 2194
Filing Date: **AUGUST 16, 2001**

REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application. Independent Claim 22 has been amended to more clearly define over the cited prior art, and dependent Claim 23 has been canceled for consistency therewith. Dependent Claim 29 has been amended to correct the minor informality noted by the Examiner. Claims 34 to 62 have been canceled to advance prosecution and without prejudice to Applicants' rights to file a continuation and/or divisional application directed to the subject matter thereof.

I. The Claimed Invention

Independent method Claim 1 is directed to a method for making an integrated circuit (IC) package with an exposed portion of the IC. The claim recites that the method includes providing a mold including first and second mold portions, with the first mold portion carrying a mold protrusion defining an IC-contact surface with peripheral edges and a bleed-through retention channel positioned inwardly from the peripheral edges. The method further includes closing the first and second mold portions around the IC and injecting encapsulating material into the mold to form the IC package with the exposed portion adjacent the mold protrusion and while the bleed-through retention channel retains encapsulating material bleeding

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beneath the peripheral edges of the IC contact surface. Method Claim 1 also recites releasing the IC package from the mold.

Amended independent method Claim 22 is also directed to a method for making an IC package with an exposed portion of the IC. This claim, however, is directed to a different aspect than Claim 1, that is, this claim recites mounting the IC on a leadframe having resilient portions to resiliently accommodate downsetting of the IC within the mold as the IC-contact surface contacts the IC. Amended independent Claim 22 further recites closing the first and second mold portions around the IC and leadframe to downset the IC under controlled pressure applied by the IC-contact surface to the IC and while the second mold portion has a surface opposite the IC and that remains spaced therefrom. The claim further recites injecting encapsulating material into the mold and releasing the IC package from the mold.

**II. Independent Claim 1 and Its Dependent
Claims are Patentable**

The Examiner rejected independent Claim 1 over the combination of Juskey et al. and Sono et al. The Examiner correctly recognized that Juskey et al. fails to disclose a bleed-through retention channel positioned inwardly from the peripheral edges of the mold protrusion as in the claimed

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invention. The Examiner cites Sono et al. as teaching a bleed-through retention channel.

Applicants respectfully submit that such a selective combination of prior art references goes clearly against the teachings of the primary reference, Juskey et al. For example, Juskey et al. discloses:

"During the molding operation, the elastomeric member 48 presses or bears against the active surface 15 of the die in order to prevent flashing of the molding compound across the die surface." (Col. 3, lines 35-39). (Emphasis added).

"The arrangement of the mold further provides that the second face 20 and the first face 14 of the die are both free of plastic molding material 50 and are revealed or exposed to the environment." (Col. 3, lines 63-67). (Emphasis added).

"The instant invention eliminates the molding material from the surface of the active circuitry of the die and the back side of the die, thereby reducing the amount of molding material used and also reducing the attendant cost of the package." (Col. 4, lines 4-8). (Emphasis added).

Sono et al. discloses grooves in the flat top and flat bottom mold portions of a mold to engage top and bottom heat radiating elements of an IC device. Accordingly, it is submitted that there is no proper motivation in the prior art to selectively combine pieces of Juskey et al. and Sono et al. in

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an attempt to produce the claimed invention. This is highlighted by the clear teaching away from the claimed invention by the primary reference, Juskey et al.

Independent method Claim 1 is thus patentable and its rejection should be withdrawn. In view of the patentability of independent Claim 1, it is submitted that its dependent claims, which recite yet further distinguishing features, are also patentable over the cited references for at least the reasons set forth above. Accordingly, these dependent claims require no further discussion herein.

III. Independent Claim 22 and Its Dependent Claims Are Patentable

Amended independent method Claim 22 is similar to prior dependent Claim 23 that was rejected as anticipated by Juskey et al. The Examiner contended that since the bottom mold protrusion of Juskey et al. could be an elastomeric material in some embodiments, that the leadframe of Juskey et al. inherently included resilient portions and that the IC of Juskey et al. was inherently downset upon closing the top and bottom mold portions. Applicants respectfully disagree with the Examiner's stretch to assert inherency. There is simply no disclosure in Juskey et al. of such downsetting, and the inherency argument would seem to require a teaching that the bottom mold protrusion was less compliant than the upper mold protrusion. Even if the

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Examiner's inherency argument were correct, amended independent Claim 22 is still patentable. Amended independent Claim 22 recites that the IC is mounted on a leadframe having resilient portions to resiliently accommodate downsetting of the IC within the mold as the IC-contact surface contacts the IC. Moreover, Claim 22 also recites closing the first and second mold portions around the IC and leadframe to downset the IC under controlled pressure applied by the IC-contact surface to the IC and while the second mold portion has a surface opposite the IC that remains spaced therefrom.

Juskey et al. fails to teach or suggest such resilient leadframe portions, and teaches away from the second mold having a surface which remains spaced from the IC during downsetting. Indeed, Juskey et al. includes a second mold protrusion to contact the back side of the IC. Accordingly, it is submitted that amended independent Claim 22 is patentable over Juskey et al. and the other prior art. In view of the patentability of independent Claim 22, its dependent claims, which recite yet further distinguishing features are also patentable, and require no further discussion herein.

IV. Conclusion

In view of the amendments and arguments presented herein, it is submitted that the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in

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Confirmation No. 2194

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due course. Should any minor informalities need to be addressed, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 703-872-9306 to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 this 8th day of March, 2004.

